

SEQUENCE LISTING

<110> Hartley, James L.  
Brasch, Michael A.  
Temple, Gary F.  
Cheo, David

<120> Compositions and Methods for Use in Recombinational  
Cloning of Nucleic Acids

<130> 0942.4680003

<140> 09/517,466

<141> 2000-03-02

<150> US 60/122,389

<151> 1999-03-02

<150> US 60/126,049

<151> 1999-03-23

<150> US 60/136,744

<151> 1999-05-28

<160> 285

<170> PatentIn version 3.1

<210> 1

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&lt;223&gt; attB2 site

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25

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&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

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&lt;223&gt; attP1 site

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cagtattatg tagtctgttt tttatgcaaa atctaattta atatattgat atttatatca 120  
ttttacgttt ctcgttcagc ttttttgtac aaagttggca ttataaaaaa gcattgctca 180  
tcaatttggt gcaacgaaca ggtcactatc agtcaaaata aaatcattat ttg 233

&lt;210&gt; 4

&lt;211&gt; 233

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

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tgcttttctta taatgccaac tttgtacaag aaagctgaac gagaaacgta aaatgatata 120  
aatatcaata tattaaatta gatttttgcac aaaaaacaga ctacataata ctgtaaaaca 180  
caacatatcc agtcactatg aatcaactac ttagatggta ttagtgacct gta 233

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<223> attL1

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acaagtttgt acaaaaaagc tgaacgagaa acgtaaaatg atataaatat caatatatta 60  
aattagatgt tgcataaaaa acagactaca taatactgta aaacacaaca tatccagtca 120  
ctatg 125

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atgcaaaaatc taatttaata tattgatatt tatatcattt tacgtttctc gttcagcttt 120  
cttgtacaaa gtggt 135

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<210> 9

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<223> 15 bp core region of attB, attP, attL and attR

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<223> attL5

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<223> attL6

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30

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<223> attB1.6

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28

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<211> 29

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<223> attB2.2

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29

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<223> attB2.10

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<223> attB2(-1) Oligonucleotide Primer

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<221> misc\_feature

<222> (25)..(25)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

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25

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<221> misc\_feature

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<400> 16  
ccagctttct tgtacaaagt ggtn

24

<210> 17

<211> 23

<212> DNA

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<220>

<221> misc\_feature

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cagctttctt gtacaaagtg gtn

23

<210> 18

<211> 22

<212> DNA

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<223> attB2(-4) Oligonucleotide Primer

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<221> misc\_feature

<222> (22)..(22)

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22

<210> 19

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> attB1- and attB2-derived Oligonucleotide Primer

<220>

<221> misc\_feature

<222> (26)..(26)

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<400> 19  
acaagtttgt acaaaaaagc aggctn

26

<210> 20

<211> 26

<212> DNA

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<220>

<221> misc\_feature

<222> (26)..(26)

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<400> 20  
accactttgt acaagaaagc tgggtn

26

<210> 21

<211> 19

<212> DNA

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<223> attB1- and attB2-derived Oligonucleotide Primer

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<221> misc\_feature

<222> (19)..(19)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

<400> 21  
tgtacaaaaa agcaggctn

19

<210> 22

<211> 19

<212> DNA

<213> Artificial Sequence

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<221> misc\_feature

<222> (19)..(19)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

<400> 22  
tgtacaagaa agctgggtn

19

<210> 23  
<211> 16  
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<221> misc\_feature

<222> (16)..(16)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

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16

<210> 24  
<211> 16  
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<223> attB1- and attB2-derived Oligonucleotide Primer

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<221> misc\_feature

<222> (16)..(16)

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sequence of any length

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16

<210> 25  
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<222> (13)..(13)

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<400> 25  
aaaaagcagg ctn

13

<210> 26

<211> 13

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<221> misc\_feature

<222> (13)..(13)

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<400> 26  
agaaagctgg gtn

13

<210> 27

<211> 12

<212> DNA

<213> Artificial Sequence

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<223> attB1- and attB2-derived Oligonucleotide Primer

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<221> misc\_feature

<222> (12)..(12)

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12

<210> 28

<211> 12

<212> DNA

<213> Artificial Sequence

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<223> attB1- and attB2-derived Oligonucleotide Primer

<220>

<221> misc\_feature

<222> (12)..(12)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

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gaaagctggg tn

12

<210> 29

<211> 11

<212> DNA

<213> Artificial Sequence

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<223> attB1- and attB2-derived Oligonucleotide Primer



<220>

<221> misc\_feature

<222> (11)..(11)

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sequence of any length

<400> 29  
aaagcaggct n

11

<210> 30

<211> 11

<212> DNA

<213> Artificial Sequence

<220>

<223> attB1- and attB2-derived Oligonucleotide Primer

<220>

<221> misc\_feature

<222> (11)..(11)

<223> n at the 3' end of the primer represents a target-specific  
sequence of any length

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aaagctgggt n

11

<210> 31

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> attB1 Oligonucleotide Primer

<400> 31  
ggggacaagt ttgtacaaaa aagcaggct

29

<210> 32

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> attB2 Oligonucleotide Primer

<400> 32

ggggaccact ttgtacaaga aagctgggt

29

<210> 33

<211> 27

<212> DNA

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<223> XhoI Insertion Primer

<220>

<221> misc\_feature

<222> (4)..(12)

<223> May be any nucleotide

<220>

<221> misc\_feature

<222> (22)..(27)

<223> May be any nucleotide

<400> 33

atgnnnnnnn nntaactcga gnnnnnn

27

<210> 34

<211> 30

<212> PRT

<213> Artificial Sequence

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<223> attB1 fused into a His6 fusion vector

<400> 34

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Gly | Ile | Thr | Ser | Leu | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Lys | Ala | Gly | Phe | Glu | Asn | Leu | Tyr | Phe | Gln | Gly | Thr | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |

<210> 35

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> attB Amino Acid Sequence

<400> 35

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Ile | Thr | Ser | Leu | Tyr | Lys | Lys | Ala | Gly | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |

<210> 36

<211> 48

<212> DNA

<213> Artificial Sequence

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<223> attL1 PCR Primer

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48

<210> 37

<211> 48

<212> DNA

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<223> attL2 PCR Primer

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ggggagcctg ctttcttgta caaagttggc attataaaaa agcattgc

48

<210> 38

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> attL Right PCR Primer

<400> 38  
tgttgccggg aagctagagt aa

22

<210> 39

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> attR1 PCR Primer

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ggggacaagt ttgtacaaaa aagctgaacg agaaacgtaa aat

43

<210> 40

<211> 43

<212> DNA

<213> Artificial Sequence

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<223> attR2

<400> 40  
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43

<210> 41

<211> 22

<212> DNA

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<223> attR Right

<400> 41  
cagacggcat gatgaacctg aa

22

<210> 42

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> B1-Hgb oligonucleotide

<400> 42  
ggggacaagt ttgtacaaaa aagcaggct

29

<210> 43

<211> 28

<212> DNA

<213> Artificial Sequence

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<223> B2-Hgb oligonucleotide

<400> 43  
ggggaccact ttgtacaaga aagctggg

28

<210> 44

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> 18B1-Hgb oligonucleotide

<400> 44

tgtacaaaaa agcaggct

18

<210> 45

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> 18B2-Hgb oligonucleotide

<400> 45

tgtacaagaa agctgggt

18

<210> 46

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> 15B1-Hgb oligonucleotide

<400> 46

acaaaaaagc aggct

15

<210> 47

<211> 15

<212> DNA

<213> Artificial Sequence

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<223> 15B2-Hgb oligonucleotide

<400> 47  
acaagaaagc tgggt

15

<210> 48

<211> 12

<212> DNA

<213> Artificial Sequence

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<223> 12B1-Hgb oligonucleotide

<400> 48  
aaaaagcagg ct

12

<210> 49

<211> 12

<212> DNA

<213> Artificial Sequence

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<223> 12B2-Hgb oligonucleotide

<400> 49  
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<210> 50

<211> 11

<212> DNA

<213> Artificial Sequence

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<223> 11B1-Hgb oligonucleotide

<400> 50  
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11

<210> 51

<211> 11

<212> DNA

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<223> 11B2-Hgb oligonucleotide

<400> 51  
gaaagctggg t

11

<210> 52

<211> 10

<212> DNA

<213> Artificial Sequence

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<223> 10B1-Hgb oligonucleotide

<400> 52  
aaagcaggct

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<210> 53

<211> 10

<212> DNA

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<223> 10B2-Hgb oligonucleotide

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<210> 54

<211> 29

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<213> Artificial Sequence



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<223> attB1 adapter

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<210> 55

<211> 29

<212> DNA

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<223> attB2 adapter

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ggggaccact ttgtacaaga aagctgggt

29

<210> 56

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<223> -5' -Hgb oligonucleotide

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gtcactagcc tgtggagcaa ga

22

<210> 57

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> -3' -Hgb oligonucleotide

<400> 57

aggatggcag agggagacga ca

22

<210> 58

<211> 15

<212> DNA

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<223> 15 bp Core Region of attB, attP, attL and attR

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gcttttttat actaa

15

<210> 59

<211> 48

<212> DNA

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<223> attL0 PCR Primer

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48

<210> 60

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<212> DNA

<213> Artificial Sequence

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<223> attLT1A PCR Primer

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ggggagcctg ctttattata ctaagttggc attataaaaa agcattgc

48

<210> 61

<211> 48

<212> DNA

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<223> attLT1C PCR Primer

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ggggagcctg ctttcttata ctaagttggc attataaaaa agcattgc

48

<210> 62

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<212> DNA

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<223> attLT1G PCR Primer

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48

<210> 63

<211> 49

<212> DNA

<213> Artificial Sequence

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<223> attLT2A PCR Primer

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ggggagcctg cttttatata ctaagttggc attataaaaa agcattgc

48

<210> 64

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<212> DNA

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<210> 65

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<223> attLT2G PCR Primer

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48

<210> 66

<211> 48

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<210> 67

<211> 48

<212> DNA

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<223> attLT3C PCR Primer

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48

<210> 68

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<210> 69

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48

<210> 70

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48

<210> 71

<211> 48

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<223> attLA4T PCR Primer

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48

<210> 72

<211> 48

<212> DNA

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<223> attLT5A PCR Primer

<400> 72

ggggagcctg cttttttaaa ctaagttggc attataaaaa agcattgc

48

<210> 73

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> attLT5C PCR Primer

<400> 73

ggggagcctg cttttttaca ctaagttggc attataaaaa agcattgc

48

<210> 74

<211> 48

<212> DNA

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<223> attLT5G PCR Primer

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48

<210> 75

<211> 48

<212> DNA

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<223> attLA6C PCR Primer

<400> 75

ggggagcctg cttttttatc ctaagttggc attataaaaa agcattgc

48

<210> 76

<211> 48

<212> DNA

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<223> attLA6G PCR Primer

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ggggagcctg cttttttatg ctaagttggc attataaaaa agcattgc

48

<210> 77

<211> 48

<212> DNA

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<223> attLA6T PCR Primer

<400> 77

ggggagcctg cttttttatt ctaagttggc attataaaaa agcattgc

48

<210> 78

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> attLC7A PCR Primer

<400> 78

ggggagcctg cttttttata ataagttggc attataaaaa agcattgc

48

<210> 79

<211> 48

<212> DNA

<213> Artificial Sequence

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<223> attLC7G PCR Primer

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ggggagcctg cttttttata gtaagttggc attataaaaa agcattgc

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<210> 80

<211> 48

<212> DNA

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<210> 81

<211> 48

<212> DNA

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<223> attL8

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<210> 82

<211> 48

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<223> attL9

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<210> 83

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<223> attL10

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<210> 84

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<223> attL14

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<210> 85

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<223> attL15

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48

<210> 86

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<223> attL0

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agcctgcttt ttatactaa gttggcatta

30

<210> 87

<211> 30

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<223> attL5

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agcctgcttt attatactaa gttggcatta

30

<210> 88

<211> 30

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<223> attL6

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<210> 89

<211> 30

<212> DNA

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<223> attL13

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| tctcaaaatc tctgatgtta cattgcacaa gataaaaata tatcatcatg aacaataaaa  | 840  |
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| gagctaccaa ctctttttcc gaaggtaact ggcttcagca gagcgcagat accaaatact  | 1920 |
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| accgggttgg actcaagacg atagttaccg gataaggcgc agcggtcggg ctgaacgggg  | 2100 |
| ggttcgtgca cacagcccag cttggagcga acgacctaca ccgaactgag atacctacag  | 2160 |
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| agcggcaggg tcggaacagg agagcgcacg agggagcttc cagggggaaa cgcctggtat  | 2280 |
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| tcaggggggc ggagcctatg gaaaaacgcc agcaacgcgg ccttttttacg gttcctggcc | 2400 |
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<222> (661)..(760)

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<222> (883)..(1692)

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<222> (1797)..(2370)

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| gaaacgtcga ggccgcgatt aaattccaac atggatgctg atttatatgg gtataaatgg  | 960  |
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<222> (1818)..(2391)

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<223> pENTR1A multiple cloning site

<220>

<221> CDS

<222> (1)..(63)

<223>

<400> 185  
act ttg tac aaa aaa gca ggc ttt aaa gga acc aat tca gtc gac tgg 48  
Thr Leu Tyr Lys Lys Ala Gly Phe Lys Gly Thr Asn Ser Val Asp Trp  
1 5 10 15  
  
atc cgg tac cga att c 64  
Ile Arg Tyr Arg Ile  
20

<210> 186

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR1A multiple cloning site

<400> 186

Thr Leu Tyr Lys Lys Ala Gly Phe Lys Gly Thr Asn Ser Val Asp Trp  
1 5 10 15  
  
Ile Arg Tyr Arg Ile  
20

<210> 187

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR1A multiple cloning site

<400> 187

gaattcgcg cgcactcga gatattctaga cccagctttc ttgtacaaa

49

<210> 188

<211> 62

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR2B multiple cloning site

<220>

<221> CDS

<222> (1)..(60)

<223>

<400> 188

ttg tac aaa aaa gca ggc tgg cgc cgg aac caa ttc agt cga ctg gat  
Leu Tyr Lys Lys Ala Gly Trp Arg Arg Asn Gln Phe Ser Arg Leu Asp  
1 5 10 15

48

ccg gta ccg aat tc  
Pro Val Pro Asn  
20

62

<210> 189

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR2B multiple cloning site

<400> 189

Leu Tyr Lys Lys Ala Gly Trp Arg Arg Asn Gln Phe Ser Arg Leu Asp  
1 5 10 15

Pro Val Pro Asn  
20

<210> 190

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR2B multiple cloning site

<220>

<221> CDS

<222> (2)..(49)

<223>

<400> 190  
g aat tcg cgg ccg cac tcg aga tat cta gac cca gct ttc ttg tac aaa 49  
Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15  
g 50

<210> 191

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR2B multiple cloning site

<400> 191

Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15

<210> 192

<211> 69

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR3C multiple cloning site

<220>

<221> CDS

<222> (1)..(63)

<223>

<400> 192  
ttg tac aaa aaa gca ggc tct tta aag gaa cca att cag tcg act gga 48  
Leu Tyr Lys Lys Ala Gly Ser Leu Lys Glu Pro Ile Gln Ser Thr Gly  
1 5 10 15  
tcc ggt acc gaa ttc gatcgc 69  
Ser Gly Thr Glu Phe  
20

<210> 193

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR3C multiple cloning site

<400> 193

Leu Tyr Lys Lys Ala Gly Ser Leu Lys Glu Pro Ile Gln Ser Thr Gly  
1 5 10 15  
Ser Gly Thr Glu Phe  
20

<210> 194

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR3C multiple cloning site

<220>

<221> CDS

<222> (2)..(49)

<223>

<400> 194  
g aat tcg cgg ccg cac tcg aga tat cta gac cca gct ttc ttg tac aaa 49  
Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15  
g 50

<210> 195

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR3C multiple cloning site

<400> 195

Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15

<210> 196

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR4 multiple cloning site

<220>

<221> CDS

<222> (1)..(63)

<223>

<400> 196

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| ttg | tac | aaa | aaa | gca | ggc | tcc | acc | atg | gga | acc | aat | tca | gtc | gac | tgg | 48 |
| Leu | Tyr | Lys | Lys | Ala | Gly | Ser | Thr | Met | Gly | Thr | Asn | Ser | Val | Asp | Trp |    |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |    |

|     |     |     |     |     |   |    |
|-----|-----|-----|-----|-----|---|----|
| atc | cgg | tac | cga | att | c | 64 |
| Ile | Arg | Tyr | Arg | Ile |   |    |
|     |     |     |     | 20  |   |    |

<210> 197

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR4 multiple cloning site

<400> 197

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Tyr | Lys | Lys | Ala | Gly | Ser | Thr | Met | Gly | Thr | Asn | Ser | Val | Asp | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| Ile | Arg | Tyr | Arg | Ile |
|     |     |     |     | 20  |

<210> 198

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR4 multiple cloning site

<220>

<221> CDS

<222> (2)..(49)

$\langle 223 \rangle$ 

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<400>      198
g  aat tcg cgg ccg cac tcg aga tat cta gac cca gct ttc ttg tac aaa      49
   Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys
   1              5              10              15
g
                                           50

```

<210> 199

<211> 16

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> pENTR4 multiple cloning site

<400> 199

Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15

<210> 200

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR5 multiple cloning site

 $\langle 220 \rangle$ 

<221> CDS

<222> (1) .. (63)

$\langle 223 \rangle$

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<400> 200
ttg tac aaa aaa gca ggc ttt cat atg gga acc aat tca gtc gac tgg      48
Leu Tyr Lys Lys Ala Gly Phe His Met Gly Thr Asn Ser Val Asp Trp
1                               5                               10                               15

atc cgg tac cga att cgc                                             66

```

Ile Arg Tyr Arg Ile  
20

<210> 201

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR5 multiple cloning site

<400> 201

Leu Tyr Lys Lys Ala Gly Phe His Met Gly Thr Asn Ser Val Asp Trp  
1 5 10 15

Ile Arg Tyr Arg Ile  
20

<210> 202

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR5 multiple cloning site

<400> 202

agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g

51

<210> 203

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR6 multiple cloning site

<220>



<221> CDS

<222> (1)..(60)

<223>

<400> 203  
ttg tac aaa aaa gca ggc tgc atg cga acc aat tca gtc gac tgg atc 48  
Leu Tyr Lys Lys Ala Gly Cys Met Arg Thr Asn Ser Val Asp Trp Ile  
1 5 10 15  
  
cgg tac cga att cgc 63  
Arg Tyr Arg Ile  
20

<210> 204

<211> 20

<212> PRT

<213> Artificial Sequence

.

<220>

<223> pENTR6 multiple cloning site

<400> 204

Leu Tyr Lys Lys Ala Gly Cys Met Arg Thr Asn Ser Val Asp Trp Ile  
1 5 10 15

Arg Tyr Arg Ile  
20

<210> 205

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR6 multiple cloning site

<400> 205  
agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g 51

<210> 206

<211> 84

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR7 multiple cloning site

<220>

<221> CDS

<222> (1)..(81)

<223>

<400> 206  
ttg tac aaa aaa gca ggc ttt gaa aac ctg tat ttt caa gga acc gtt 48  
Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly Thr Val  
1 5 10 15  
  
tca tgc atc gtc gac tgg atc cgg tac cga att cgc 84  
Ser Cys Ile Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 207

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR7 multiple cloning site

<400> 207

Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly Thr Val  
1 5 10 15  
  
Ser Cys Ile Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 208

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR7 multiple cloning site

<400> 208

agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g

51

<210> 209

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR8 multiple cloning site

<220>

<221> CDS

<222> (1)..(78)

<223>

<400> 209

ttg tac aaa aaa gca ggc ttt gaa aac ctg tat ttt caa gga acc atg  
Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly Thr Met  
1 5 10 15

48

gac cta gtc gac tgg atc cgg tac cga att cgc  
Asp Leu Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

81

<210> 210

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR8 multiple cloning site

<400> 210

Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly Thr Met  
1 5 10 15

Asp Leu Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 211

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR8 multiple cloning site

<400> 211  
agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g 51

<210> 212

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR9 multiple cloning site

<220>

<221> CDS

<222> (1)..(78)

<223>

<400> 212  
ttg tac aaa aaa gca ggc ttt gaa aac ctg tat ttt caa gga cat atg 48  
Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly His Met  
1 5 10 15

aga tct gtc gac tgg atc cgg tac cga att cgc 81  
Arg Ser Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 213

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR9 multiple cloning site

<400> 213

Leu Tyr Lys Lys Ala Gly Phe Glu Asn Leu Tyr Phe Gln Gly His Met  
1 5 10 15

Arg Ser Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 214

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR9 multiple cloning site

<400> 214  
agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g

51

<210> 215

<211> 84

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR10 multiple cloning site

<220>

<221> CDS

<222> (1)..(81)

<223>

<400> 215  
ttg tac aaa aaa gca ggc ttc gaa cta agg aaa tac tta cat atg gga 48  
Leu Tyr Lys Lys Ala Gly Phe Glu Leu Arg Lys Tyr Leu His Met Gly  
1 5 10 15

acc aat tca gtc gac tgg atc cgg tac cga att cgc 84  
Thr Asn Ser Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 216

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR10 multiple cloning site

<400> 216

Leu Tyr Lys Lys Ala Gly Phe Glu Leu Arg Lys Tyr Leu His Met Gly  
1 5 10 15

Thr Asn Ser Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 217

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR10 multiple cloning site

<400> 217  
agaattcgcg gccgcactcg agatatctag acccagcttt cttgtacaaa g 51

<210> 218

<211> 88

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$ 

<223> pENTR11 multiple cloning site

 $\langle 220 \rangle$ 

<221> CDS

<222> (1) .. (87)

<223>

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<400>      218
ttg tac aaa aaa gca ggc ttc gaa gga gat aga acc aat tct cta agg      48
Leu Tyr Lys Lys Ala Gly Phe Glu Gly Asp Arg Thr Asn Ser Leu Arg
1              5              10              15
```

aaa tac tta acc atg gtc gac tgg atc cgg tac cga att c 88  
Lys Tyr Leu Thr Met Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 219

<211> 29

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> pENTR11 multiple cloning site

<400> 219

Leu Tyr Lys Lys Ala Gly Phe Glu Gly Asp Arg Thr Asn Ser Leu Arg  
1 5 10 15

Lys Tyr Leu Thr Met Val Asp Trp Ile Arg Tyr Arg Ile  
20 25

<210> 220

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> pENTR11 multiple cloning site

<220>

<221> CDS

<222> (2)..(49)

<223>

<400> 220  
g aat tcg cgg ccg cac tcg aga tat cta gac cca gct ttc ttg tac aaa 49  
Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15  
g 50

<210> 221

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> pENTR11 multiple cloning site

<400> 221

Asn Ser Arg Pro His Ser Arg Tyr Leu Asp Pro Ala Phe Leu Tyr Lys  
1 5 10 15

<210> 222

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST1

<400> 222  
atgagctgtt gacaattaat catccggctc gtataatgtg tggaattgtg agcggataac 60  
aatttcacac aggaaacaga caggtatagg atcacaagtt tgtacaaaaa agctgaacga 120

<210> 223

<211> 153



<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST2

<220>

<221> CDS

<222> (94)..(135)

<223>

<400> 223  
aatattctga aatgagctgt tgacaattaa tcatccggtc cgtataatct gtggaattgt 60  
gagcggataa caatttcaca caggaaacag acc atg tcg tac tac cat cac cat 114  
Met Ser Tyr Tyr His His His  
1 5  
cac cat cac ggc atc aca agt ttgtacaaaa aagctgaa 153  
His His His Gly Ile Thr Ser  
10

<210> 224

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST2

<400> 224

Met Ser Tyr Tyr His His His His His His Gly Ile Thr Ser  
1 5 10

<210> 225

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST3

<220>

<221> CDS

<222> (106)..(120)

<223>

<400> 225  
cggttctggc aaatattctg aaatgagctg ttgacaatta atcatcggct cgtataatgt 60  
gtggaattgt gagcggataa caatttcaca caggaaacag tattc atg tcc cct ata 117  
Met Ser Pro Ile  
1

cta gggttattgga aaattaaggg ccttgtgcaa ccc 153  
Leu  
5

<210> 226

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST3

<400> 226

Met Ser Pro Ile Leu  
1 5

<210> 227

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST3

<220>

<221> CDS

<222> (10)..(63)

<223>

<400> 227

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ctgggtccg  cgt gga tct cgt cgt gca tct gtt gga tcc cca tca aca agt      51
           Arg Gly Ser Arg Arg Ala Ser Val Gly Ser Pro Ser Thr Ser
           1               5               10
```

```
ttg tac aaa aaa gctgaacgag aaacgtaaaa tgatataaat atcaatata      102
Leu Tyr Lys Lys
15
```

<210> 228

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST3

<400> 228

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Arg Gly Ser Arg Arg Ala Ser Val Gly Ser Pro Ser Thr Ser Leu Tyr
1               5               10               15
```

Lys Lys

<210> 229

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST4

<220>

<221> CDS

<222> (97)..(246)

<223>

<400> 229

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gcaaataattc tgaaatgagc tgttgacaat taatcatccg gtccgtataa tctgtggaat      60
tgtgagcggg taacaatttc acacaggaaa cagacc  atg ggt cat cat cat cat      114
                                   Met Gly His His His His
                                   1                               5

cat cac gat tac gat atc cca acg acc gaa aac ctg tat ttt cag ggc      162
His His Asp Tyr Asp Ile Pro Thr Thr Glu Asn Leu Tyr Phe Gln Gly
                                   10                               15                               20

gcc cat atg agc gat aaa att att cac ctg act gac gac agt gat gac      210
Ala His Met Ser Asp Lys Ile Ile His Leu Thr Asp Asp Ser Asp Asp
                                   25                               30                               35

gat gac aag gta ccc atc aca agt ttg tac aaa aaa gctgaacga      255
Asp Asp Lys Val Pro Ile Thr Ser Leu Tyr Lys Lys
                                   40                               45                               50

```

<210> 230

<211> 50

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST4

<400> 230

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Met Gly His His His His His His Asp Tyr Asp Ile Pro Thr Thr Glu
1                               5                               10                               15

Asn Leu Tyr Phe Gln Gly Ala His Met Ser Asp Lys Ile Ile His Leu
20                               25                               30

Thr Asp Asp Ser Asp Asp Asp Asp Lys Val Pro Ile Thr Ser Leu Tyr
35                               40                               45

Lys Lys
50

```

<210> 231

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST5

<400> 231  
aggcacccca ggctttacac tttatgcttc cggctcgtat gttgtgtgga attgtgagcg 60  
gataacaatt tcacacagga aacagctatg accatgatta cgccaagctc taatacgact 120  
cactataggg aaagctggta cgctgcagg taccgggccg gaattcccgg gtcgacgac 180  
acaagtttgt acaaaaaagc tgaa 204

<210> 232

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST5

<400> 232  
tttacgtttc tcgttcagct ttcttgtaca aagtggatgat cactagtcgg cggccgctct 60  
agaggatcca agcttacgta cgcgtgcatg cgacgtcata gctcttctat agtgtcacct 120  
aaattcaatt cactggccgt cgttttacaa cgtcgtgact gggaaaaccc tggcgttacc 180  
caacttaatc gccttgcagc acat 204

<210> 233

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST6

<400> 233  
taacgccagg gttttcccag tcacgacgtt gtaaaacgac ggccagtgaa ttgaatttag 60  
gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagcttg gatcctctag 120  
agcggccgcc gactagtgat cacaagtttg tacaaaaaag ctgaacgaga aacgtaaaat 180

gatataaata tcaatatatt aaat

204

<210> 234

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST6

<400> 234

|  |     |
|--|-----|
| tatttatatc attttacggt tctcgttcag ctttcttgta caaagtgggtg atcgtcgacc | 60  |
| cggaattcc ggaccggtac ctgcaggcgt accagctttc cctatagtga gtcgtattag   | 120 |
| agcttggcgt aatcatgggc atagctgttt cctgtgtgaa attggttatcc gctcacaatt | 180 |
| ccacacaaca tacgagccgg aagcataaag tgtaaagcct ggggtgccta atgagtgagc  | 240 |
| taactcacat taatt   | 255 |

<210> 235

<211> 306

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST7

<400> 235

|  |     |
|--|-----|
| ccattgacgc aaatgggcgg taggcgtgta cgggtgggagg tctatataag cagagctcgt | 60  |
| ttagtgaacc gtcagatcgc ctggagacgc catccacgct gttttgacct ccatagaaga  | 120 |
| caccgggacc gatccagcct ccggactcta gcctaggccg cggagcggat aacaatttca  | 180 |
| cacaggaaac agctatgacc actaggcttt tgcaaaaagc tatttaggtg acactataga  | 240 |
| aggtacgcct gcaggtaccg gtccggaatt cccatcacia gtttgtacia aaaagctgaa  | 300 |
| cgagaa   | 306 |

<210> 236

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST8

<400> 236  
cgtatactcc ggaatattaa tagatcatgg agataattaa aatgataacc atctcgcaaa 60  
taaataagta ttttactggt ttcgtaacag ttttgtaata aaaaaaccta taaatattcc 120  
ggattattca taccgtccca ccatcgggcg cggatcatca caagtttgta caaaaaagct 180  
gaacgagaaa cgtaaaatga tata 204

<210> 237

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST9

<400> 237  
ttggcgaggg acattaaggc gtttaagaaa ttgagaggac ctggtataca cctctacggc 60  
ggtcctagat tgggtgcgta atacacagaa ttctgattgg atcccgggtcc gaagcgcgct 120  
ttcccatcaa caagtttgta caaaaaagct gaa 153

<210> 238

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST10

<220>

<221> CDS

<222> (109)..(201)

<223>

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<400> 238
aaataagtat ttactgttt tcgtaacagt ttgtataaa aaaaacctat aaatattccg      60
gattattcat accgtcccac catcggggcgc ggatctcggg ccgaaacc atg tcg tac      117
                                     Met Ser Tyr
                                     1

tac cat cac cat cac cat cac gat tac gat atc cca acg acc gaa aac      165
Tyr His His His His His His Asp Tyr Asp Ile Pro Thr Thr Glu Asn
      5                               10                               15

ctg tat ttt cag ggc atc aca agt ttg tac aaa aaa gct      204
Leu Tyr Phe Gln Gly Ile Thr Ser Leu Tyr Lys Lys
20                               25                               30

```

<210> 239

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST10

<400> 239

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Met Ser Tyr Tyr His His His His His His Asp Tyr Asp Ile Pro Thr
1                               5                               10                               15

Thr Glu Asn Leu Tyr Phe Gln Gly Ile Thr Ser Leu Tyr Lys Lys
      20                               25                               30

```

<210> 240

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST11

```

<400> 240
tagtgaaccg tcagatcgcc tggagacgcc atccacgctg ttttgacctc catagaagac      60
accgggaccg atccagcctc cgcgggcccg aattcgagct cggtacccgg ggatcctcta      120
gagtcgaggt cgacggtatc gataagcttg atatcaaaa gtttgtacaa aaaagctgaa      180

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cgagaaacgt aaaatgatataaat

204

<210> 241

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST12.2

<400> 241

|   |     |
|---|-----|
| accgtcagat cgcttggaga cgccatccac gctgttttga cctccataga agacaccggg | 60  |
| accgatccag cctccggact ctagcctagg ccgcggagcg gataacaatt tcacacagga | 120 |
| aacagctatg accattaggc ctttgcaaaa agctatttag gtgacactat agaaggtagc | 180 |
| cctgcaggta ccggtccgga attcccatca acaagtttgt acaaaaaagc tgaacgagaa | 240 |
| acgtaaaatg atata  | 255 |

<210> 242

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST13

<400> 242

|   |     |
|---|-----|
| tgggcaaacc aagacagcta aagatctctc acctaccaaa caatgcccc ctgcaaaaaa  | 60  |
| taaattcata taaaaaacat acagataacc atctgcggtg ataaattatc tctggcggtg | 120 |
| ttgacataaa taccactggc ggtgatactg agcacatcag caggacgcac tgaccaccat | 180 |
| gaaggtgacg ctcttaaaaa ttaagccctg aagaaggga gattcaaag cagaaggctt   | 240 |
| tgggggtgtg gatacgaaac gaagcattgg gatcatcaca agtttgtaca aaaaagctga | 300 |

<210> 243

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST14

<400> 243

tgccggccac gatgcgtccg gcgtagagga tcgagatctc gatcccgcca aattaatacg 60

actcactata gggagaccac aacggtttcc ctctagatca caagtttgta caaaaaagct 120

<210> 244

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST15

<220>

<221> misc\_feature

<222> (1)..(1)

<223> may be any nucleotide

<220>

<221> CDS

<222> (106)..(120)

<223>

<400> 244

natcgagatc tcgatcccgcc gaaattaata cgactcacta tagggagacc acaacggttt 60

ccctctagaa ataattttgt ttaactttaa gaaggagata tacat atg tcc cct ata 117  
Met Ser Pro Ile  
1

cta ggttattgga aaattaaggg ccttggtgcaa cccactcgac ttcttttgga 170  
Leu  
5

atatcttgaa gaaaaatatg aagagcattt gtat 204

<210> 245

<211> 5  
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<220>  
<223> pDEST15  
<220>  
<221> misc\_feature  
<222> (1)..(1)  
<223> may be any nucleotide  
<400> 245

Met Ser Pro Ile Leu  
1 5

<210> 246  
<211> 153  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> pDEST15  
<220>  
<221> CDS  
<222> (70)..(99)  
<223>

<400> 246  
cagggctggc aagccacgtt tgggtgggtggc gaccatcctc caaaatcgga tctgggtccg 60  
cgtccatgg tcg aat caa aca agt ttg tac aaa aaa gct gaacgagaaa 109  
Ser Asn Gln Thr Ser Leu Tyr Lys Lys Ala  
1 5 10  
cgtaaaatga tataaatatc aatatattaa attagatttt gcat 153

<210> 247

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST15

<400> 247

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asn | Gln | Thr | Ser | Leu | Tyr | Lys | Lys | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |

<210> 248

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST16 multiple cloning site

<220>

<221> CDS

<222> (100)..(111)

<223>

|   |                 |
|---|-----------------|
| <400> 248   |                 |
| gatctcgatc ccgcgaaatt aatacgactc actataggga gaccacaacg gtttccctct | 60              |
| agaaataatt ttgtttaact ttaagaagga gatatacat atg agc gat aaa        | 111             |
|   | Met Ser Asp Lys |
|   | 1               |
| attattcacc tgactgacga cagttttgac acggatgtac tc                    | 153             |

<210> 249

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST16 multiple cloning site

<400> 249

Met Ser Asp Lys  
1

<210> 250

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST16 multiple cloning site

<220>

<221> CDS

<222> (82)..(123)

<223>

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aacctggccg gttctggttc t ggt gat gac gat gac aag atc aca agt ttg 111  
Gly Asp Asp Asp Asp Lys Ile Thr Ser Leu  
1 5 10  
tac aaa aaa gct gaacgagaaa cgtaaaatga tataaatatc 153  
Tyr Lys Lys Ala

<210> 251

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST16 multiple cloning site

<400> 251

Gly Asp Asp Asp Asp Lys Ile Thr Ser Leu Tyr Lys Lys Ala  
1 5 10

<210> 252

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST17 multiple cloning site

<220>

<221> CDS

<222> (94)..(153)

<223>

<400> 252  
gatcccgcgga aattaatacg actcactata gggagaccac aacgggtttcc ctctagaaat 60  
aattttgttt aactttaaga aggagatata cat atg tcg tac tac cat cac cat 114  
Met Ser Tyr Tyr His His His  
1 5  
cac cat cac ctc gaa tca aca agt ttg tac aaa aaa gct 153  
His His His Leu Glu Ser Thr Ser Leu Tyr Lys Lys Ala  
10 15 20

<210> 253

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST17 multiple cloning site

<400> 253

Met Ser Tyr Tyr His His His His His His Leu Glu Ser Thr Ser Leu  
1 5 10 15

Tyr Lys Lys Ala  
20

<210> 254

<211> 420

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST18 p10 Promoter

<400> 254

|   |     |
|---|-----|
| gaagacctcg gccgtcgcgg cgcttgccgg tgggtgctgac cccggatgaa gtgggttcgca | 60  |
| tcctcggttt tctggaaggc gagcatcggt tgttcgcca ggactctagc tatagttcta    | 120 |
| gtggttggct acgtatcgag caagaaaata aaacgccaaa cgcgttggag tcttgtgtgc   | 180 |
| tatTTTTaca aagattcaga aatacgcac acttacaaca agggggacta tgaaattatg    | 240 |
| cattttgagg atgccgggac ctttaattca acccaacaca atatattata gttaaataag   | 300 |
| aattatttat caaatcattt gtatattaat taaaatacta tactgtaaat tacattttat   | 360 |
| ttacaatgag gatcatcaca agtttgtaca aaaaagctga acgagaaacg taaaatgata   | 420 |

<210> 255

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST19 39K Promoter

<400> 255

|   |     |
|---|-----|
| ggtgacgccg tcatctttcc attgtaacgt aaatggcaac ttgtagatga acgcgctgtc | 60  |
| aaaaaaccgg ccagtttctt ccacaaactc gcgcacggct gtctcgtaaa cttttgcgtc | 120 |
| gcaacaatcg cgatgacctc gtggtatgga aatTTTTtct aaaaagtgt cgttcatgtc  | 180 |
| ggcggcggcg ttcgcgctcc ggtacgcgcg acgggcacac agcaggacag ccttgtccgg | 240 |
| ctcgattatc ataaacaatc ctgcaggcat gcaagctgga tcatcacaag tttgtacaaa | 300 |

<210> 256

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST20 Polyhedron Promoter

<220>

<221> CDS

<222> (163)..(174)

<223>

<400> 256  
ggctacgtat actccggaat attaatagat catggagata attaaaatga taaccatctc 60  
gcaaataaat aagtatttta ctgttttcgt aacagttttg taataaaaaa acctataaat 120  
attccggatt attcataccg tcccaccatc gggcgcggat cc atg gcc cct ata 174  
Met Ala Pro Ile  
1  
ctaggttatt ggaaaattaa gggccttgtg 204

<210> 257

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST20 Polyhedron Promoter

<400> 257

Met Ala Pro Ile  
1

<210> 258

<211> 95

<212> DNA

<213> Artificial Sequence

<220>



<223> pDEST20 Polyhedron Promoter

<220>

<221> CDS

<222> (1)..(48)

<223>

<400> 258  
tcg gat ctg gtt ccg cgt cat aat caa aca agt ttg tac aaa aaa gct 48  
Ser Asp Leu Val Pro Arg His Asn Gln Thr Ser Leu Tyr Lys Lys Ala  
1 5 10 15  
gaacgagaaa cgtaaaatga tataaatatc aatatattaa attagat 95

<210> 259

<211> 16

<212> PRT

<213> Artificial Sequence .

<220>

<223> pDEST20 Polyhedron Promoter

<400> 259

Ser Asp Leu Val Pro Arg His Asn Gln Thr Ser Leu Tyr Lys Lys Ala  
1 5 10 15

<210> 260

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST21 Promoter region

<220>

<221> CDS

<222> (163)..(180)

<223>

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attgttctcg ttccctttct tccttgtttc tttttctgca caatatttca agctatacca 120  
agcatacaat caactccaag cttgaagcaa gcctcctgaa ag atg aag cta ctg 174  
Met Lys Leu Leu  
1  
  
tct tct atcgaacaag catgcatat ttgc 204  
Ser Ser  
5

<210> 261  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> pDEST21 Promoter region  
<400> 261  
Met Lys Leu Leu Ser Ser  
1 5

<210> 262  
<211> 102  
<212> DNA  
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<220>  
<223> pDEST21 Promoter region  
<220>  
<221> CDS  
<222> (37)..(78)  
<223>

<400> 262  
gaagagagta gtaacaaagg tcaaagacag ttgact gta tcg tcg agg tcg aat 54  
Val Ser Ser Arg Ser Asn

1

5

caa aca agt ttg tac aaa aaa gct gaacgagaaa cgtaaaatga tata  
Gln Thr Ser Leu Tyr Lys Lys Ala  
10

102

<210> 263

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST21 Promoter region

<400> 263

Val Ser Ser Arg Ser Asn Gln Thr Ser Leu Tyr Lys Lys Ala  
1 5 10

<210> 264

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST22 Promoter region

<220>

<221> CDS

<222> (217)..(228)

<223>

<400> 264

acgcacacta ctctctaatag agcaacggta tacggccttc cttccagtta cttgaatttg 60  
aaataaaaaa agtttgccgc ttgctatca agtataaata gacctgcaat tattaatctt 120  
ttgtttcctc gtcattgttc tcgttcctt tcttccttgt ttctttttct gcacaatatt 180  
tcaagctata ccaagcatat aatcaactcc aagctt atg ccc aag aag 228  
Met Pro Lys Lys  
1

aagcggaagg tctcgagcgg cgccaat

255

<210> 265

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST22 Promoter region

<400> 265

Met Pro Lys Lys  
1

<210> 266

<211> 82

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST22

<220>

<221> CDS

<222> (28)..(66)

<223>

<400> 266

gaagataccc caccaaacc aaaaaaa gag ggt ggg tcg aat caa aca agt ttg  
Glu Gly Gly Ser Asn Gln Thr Ser Leu  
1 5

54

tac aaa aaa gct gaacgagaaa cgtaaa  
Tyr Lys Lys Ala  
10

82

<210> 267

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST22

<400> 267

|     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Gly | Gly | Ser | Asn | Gln | Thr | Ser | Leu | Tyr | Lys | Lys | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |

<210> 268

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST23 T7 promoter

|            |            |            |
|------------|------------|------------|
| <400>      | 268        |            |
| atcccgcgaa | attaatacga | ctcactatag |
|            | ggagaccaca | acggtttccc |
|            | tctagatcac | 60         |
| aagtttgtag | aaaaaagctg | aacgagaaac |
|            | gtaaaatgat | at         |
|            |            | 102        |

<210> 269

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST23 T7 promoter

<220>

<221> CDS

<222> (61)..(126)

<223>

|            |            |             |
|------------|------------|-------------|
| <400>      | 269        |             |
| tttttatgca | aatctaatt  | taatataattg |
|            | atatttatat | cattttacgt  |
|            | ttctcggtca | 60          |
| gct        | ttc        | ttg         |
| tac        | aaa        | gtg         |
| gtg        | att        | atg         |
| tcg        | tac        | tac         |
| cat        | cac        | cat         |
| cac        |            |             |
|            |            | 108         |

-330-

Ala Phe Leu Tyr Lys Val Val Ile Met Ser Tyr Tyr His His His His  
1 5 10 15

cat cac ctc gat gag caa taactagcat aacccttg ggcctct 153  
His His Leu Asp Glu Gln  
20

<210> 270

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST23 T7 promoter

<400> 270

Ala Phe Leu Tyr Lys Val Val Ile Met Ser Tyr Tyr His His His His  
1 5 10 15

His His Leu Asp Glu Gln  
20

<210> 271

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST24 T7 promoter

<400> 271  
atcgagatct cgatcccgcg aaattaatac gactcactat agggagacca caacggtttc 60  
cctctagatc acaagtttgt acaaaaaagc tgaacgagaa ac 102

<210> 272

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST24 T7 promoter

<220>

<221> CDS

<222> (22)..(60)

<223>

<400> 272  
tcattttacg tttctcgttc a gct ttc ttg tac aaa gtg gtg att atg tcc 51  
Ala Phe Leu Tyr Lys Val Val Ile Met Ser  
1 5 10  
cct ata cta ggttattgga aaattaaggg ccttggtgcaa cccactcgac tt 102  
Pro Ile Leu

<210> 273

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST24 T7 promoter

<400> 273

Ala Phe Leu Tyr Lys Val Val Ile Met Ser Pro Ile Leu  
1 5 10

<210> 274

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST25 T7 promoter

<220>

<221> misc\_feature

<222> (1)..(1)

<223> May be any nucleotide

<400> 274  
nagatctcga tcccgcgaaa ttaatacgac tcactatagg gagaccacaa cggtttcct 60  
ctagatcaca agtttgtaga aaaaagctga acgagaaacg ta 102

<210> 275

<211> 102

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST25 T7 promoter

<220>

<221> CDS

<222> (19)..(60)

<223>

<400> 275  
ttttacgttt ctcgttca gct ttc ttg tac aaa gtg gtg att atg agc gat 51  
Ala Phe Leu Tyr Lys Val Val Ile Met Ser Asp  
1 5 10  
aaa att att cacctgactg acgacagttt tgacacggat gtactcaaag cg 102  
Lys Ile Ile

<210> 276

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST25 T7 promoter

<400> 276



Ala Phe Leu Tyr Lys Val Val Ile Met Ser Asp Lys Ile Ile  
 1 5 10

<210> 277

<211> 306

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST26 CMV promoter

<220>

<221> CDS

<222> (238)..(297)

<223>

<400> 277  
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 acaactccgc cccattgacg caaatgggag gtaggcgtgt acggtgggag gtctatataa 120  
 gcagagctcg tttagtgaac cgtcagatcg cctggagacg ccatccacgc tgttttgacc 180  
 tccatagaag acaccgggac cgatccagcc tccggactct agcctaggcc gcggacc 237  
 atg gcg tac tac cat cac cat cac cat cac tct aga tca aca agt ttg 285  
 Met Ala Tyr Tyr His His His His His His Ser Arg Ser Thr Ser Leu  
 1 5 10 15  
 tac aaa aaa gct gaacgagaa 306  
 Tyr Lys Lys Ala  
 20

<210> 278

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST26 CMV promoter

<400> 278

Met Ala Tyr Tyr His His His His His His Ser Arg Ser Thr Ser Leu  
1 5 10 15

Tyr Lys Lys Ala  
20

<210> 279

<211> 255

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST27 promoter

<220>

<221> misc\_feature

<222> (1)..(1)

<223> May be any nucleotide

<220>

<221> CDS

<222> (139)..(153)

<223>

<400> 279  
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gccatccacg ctgttttgac ctccatagaa gacaccggga ccgatccagc ctccggactc 120  
tagcctaggc cgcggacc atg gcc cct ata cta gggtattgga aaattaaggg 173  
Met Ala Pro Ile Leu  
1 5  
ccttgtgcaa ccactcgac ttcttttgga atatcttgaa gaaaaatatg aagagcattt 233  
gtatgagcgc gatgaaggtg at 255

<210> 280

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST27 promoter

<220>

<221> misc\_feature

<222> (1)..(1)

<223> May be any nucleotide

<400> 280

Met Ala Pro Ile Leu  
1 5

<210> 281

<211> 87

<212> DNA

<213> Artificial Sequence

<220>

<223> pDEST27 promoter

<220>

<221> CDS

<222> (37)..(75)

<223>

<400> 281  
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Val Pro Arg Ser Arg Ser  
1 5

aca agt ttg tac aaa aaa gct gaacgagaaa cg 87  
Thr Ser Leu Tyr Lys Lys Ala  
10

<210> 282

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> pDEST27 promoter

<400> 282

Val Pro Arg Ser Arg Ser Thr Ser Leu Tyr Lys Lys Ala  
1 5 10

<210> 283

<211> 405

<212> DNA

<213> Artificial Sequence

<220>

<223> pEXP501

<400> 283  
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catagaagac accgggaccg atccagcctc cggactctag cctaggccgc ggagcggata 120  
acaatttcac acaggaaaca gctatgacca ttaggcctat ttaggtgaca ctatagaaca 180  
agtttgtaca aaaaagcagg ctggtaccgg tccggaattc ccgggatatc gtcgacgagc 240  
tcactagtcg gcggccgctc tagagtatcc ctcgaggggc ccaagcttac gcgtaccag 300  
ctttcttgta caaagtgggc cctatagtga gtcgtattat aagctaggca ctggccgctc 360  
ttttacaacg tcgtgactgg gaaaactgct agcttgggat ctttg 405

<210> 284

<211> 153

<212> DNA

<213> Artificial Sequence

<220>

<223> His6-CAT

<220>

<221> CDS

<222> (31)..(153)

<223>

<400> 284

|            |            |            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------|------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| cggataacaa | tttcacacag | gaaacagacc | atg | tcg | tac | tac | cat | cac | cat | cac |     | 54  |     |     |     |     |
|            |            |            | Met | Ser | Tyr | Tyr | His | His | His | His |     |     |     |     |     |     |
|            |            |            | 1   |     |     |     | 5   |     |     |     |     |     |     |     |     |     |
| cat        | cac        | ggc        | atc | aca | agt | ttg | tac | aaa | aaa | gca | ggc | ttt | gaa | aac | ctg | 102 |
| His        | His        | Gly        | Ile | Thr | Ser | Leu | Tyr | Lys | Lys | Ala | Gly | Phe | Glu | Asn | Leu |     |
|            | 10         |            |     |     |     | 15  |     |     |     |     | 20  |     |     |     |     |     |
| tat        | ttt        | caa        | gga | acc | atg | gag | aaa | aaa | atc | act | gga | tat | acc | acc | gtt | 150 |
| Tyr        | Phe        | Gln        | Gly | Thr | Met | Glu | Lys | Lys | Ile | Thr | Gly | Tyr | Thr | Thr | Val |     |
| 25         |            |            |     |     | 30  |     |     |     |     | 35  |     |     |     |     | 40  |     |
| gat        |            |            |     |     |     |     |     |     |     |     |     |     |     |     |     | 153 |
| Asp        |            |            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 285

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> His6-CAT

<400> 285

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Tyr | His | His | His | His | His | His | Gly | Ile | Thr | Ser | Leu | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Lys | Ala | Gly | Phe | Glu | Asn | Leu | Tyr | Phe | Gln | Gly | Thr | Met | Glu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Ile | Thr | Gly | Tyr | Thr | Thr | Val | Asp |     |     |     |     |     |     |     |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     |     |     |     |